CLAIMS:

1. An integrated support comprising: at least one thread shaped, string shaped, tape shaped, or rod shaped long and slender base member, and a variety of substances for detection of predetermined chemical structure which are fixed side by side along the length of said base member, and said base member is rolled, laminated or arranged to give integration, so that a fixed location of each substance for detection corresponds to the chemical structure thereof.

2. An integrated support according to claim 1, wherein said base member is provided with cavity sections comprising a channel either with or without a bottom, an aperture, or a capillary, or holding sections of a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material, and moreover wherein said substances for detection are fixed to said cavity sections or holding sections.

3. An integrated support according to claim 1 or claim 2, wherein said base member is rolled, laminated or arranged in such a way that either enables or prevents expansion, while bringing side portions thereof into contact with each other or while maintaining a spacing or while sandwiching an auxiliary member.

4. An integrated support according to claim 1 or claim 2, wherein markings are attached to said base member for identifying the chemical structure of said substances for detection, or the locations on said integrated support of said substances for detection.

5. An integrated support according to claim 1 or claim 2, further comprising a binding section for binding said base member and/or an auxiliary member in such a way that is either releasable or non-releasable.

6. An integrated support according to claim 5, wherein said binding section is an adhesive portion for bonding side portions of said base member and/or auxiliary member in a manner which is either releasable or non-releasable.

7. An integrated support according to claim 1 or claim 2, wherein a linear homoiothermal member is embedded inside said base member and/or an auxiliary member for heating or cooling purposes.

8. A DNA integrated support comprising:

a substantially flat substrate wherein at least one thread shaped, string shaped, tape shaped, or rod shaped long and slender base member is rolled, laminated or arranged in such a way that either enables or prevents expansion while bringing side portions thereof into contact with each other or while maintaining a spacing or while sandwiching an auxiliary member, to give integration; and

genetic substances such as oligonucleotides which are fixed in locations along the length of said base member, either in a plurality of cavity sections which comprise channels, apertures or capillaries either with or without bottoms, or alternatively in a plurality of holding sections comprising a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material, with the cavity sections or holding sections being provided along the length of said base member,

and the fixed locations of each of said genetic substances correspond with base sequences for that substance.

9. An integrated minute vessel comprising: at least one thread shaped, cord shaped, tape shaped or rod shaped long and slender base member; and either cavity sections which comprise channels, apertures or capillaries with bottoms or ends, or holding sections having a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material, provided on said base member, and wherein said base member is rolled, laminated or arranged to give integration.

10. An integrated minute vessel according to claim 9, wherein said base member is rolled, laminated or arranged in such a way that either enables or prevents expansion, while bringing side portions thereof into contact with each other or while sandwiching an auxiliary member, to give integration and formed into a substantially flat sheet.

11. An integrated minute vessel according to claim 9 or claim 10, wherein marking is provided on a layer surface of the integrated minute vessel to identify position on the layer surface.

12. An integrated minute vessel according to claim 9 or claim 10, wherein said integrated minute vessel is provided with a binding section for binding said base member and/or auxiliary member in such a way that is either releasable or non-releasable.

13. An integrated minute vessel according to claim 12, wherein said binding section is an adhesive portion which bonds side portions of said base member and/or said auxiliary member in such a way that these are either releasable or non-releasable.

14. An integrated minute vessel according to claim 9 or claim 10, wherein said thread shaped, cord shaped, tape shaped or rod shaped base member is provided with channels with ends, or apertures with bottoms or capillaries, and/or bottomless apertures or capillaries, or open ended channels, along the direction of a normal line of the layer surface.

15. An integrated minute vessel according to claim 9 or claim 10, wherein a linear homoiothermal member is provided inside said base member or said auxiliary member for heating or cooling purposes.

16. A permeable membrane comprising: at least one thread shaped, string shaped, tape shaped, or rod shaped long and slender base member; and cavity sections such as penetrating channels, apertures or capillaries, or holding sections formed from a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material, provided on said base member, and wherein said base member is rolled, laminated or arranged to give integration.

17. A permeable membrane according to claim 16, wherein said base member is rolled, laminated or arranged in such a way that either enables or prevents expansion, while bringing side portions thereof into contact with each other or while sandwiching an auxiliary member to give integration, and formed into a substantially flat sheet.

18. A permeable membrane according to claim 16 or claim 17, wherein said permeable membrane is provided with a binding section for binding said base member and said auxiliary member in such a way that is either releasable or non-releasable.

19. A permeable membrane according to claim 18, wherein said binding section is an adhesive portion which bonds side portions of said base member and/or said auxiliary member in such a way that these are either releasable or non-releasable.

20. A permeable membrane according to claim 16 or claim 17, wherein said thread shaped, cord shaped, tape shaped or rod shaped long and slender base member is provided with cavity sections comprising open ended channels and/or bottomless apertures and/or capillaries along the direction of a normal line of the layer surface.

21. A permeable membrane according to claim 16 or claim 17, wherein a linear homoiothermal member is provided inside said base member and/or said auxiliary member for heating or cooling purposes.

22. A method of manufacturing an integrated support, comprising a positioning step for positioning and fixing substances for detection of predetermined chemical structures at predetermined locations on at least one base member, and an integration step for rolling, laminating or arranging said base member to give integration, and the location of respective substances for detection and the chemical structures are made to correspond.

23. A method of manufacturing an integrated support according to claim 22, wherein said base member is formed from a thread shaped, string shaped, tape shaped, or rod shaped long and slender member.

24. A method of manufacturing an integrated support according to claim 22 or claim 23, wherein in said positioning step, each suspension or semiliquid incorporating a substance for detection with a predetermined chemical structure, is positioned by being painted, dispensed, imprinted, drawn up, impregnated or stored onto said base member at a location which corresponds to the chemical structure.

25. A method of manufacturing an integrated support according to claim 22 or claim 23, wherein in said integration step said base member is rolled, laminated or arranged in such a way that either enables or prevents expansion while bringing said base member into contact with itself or while maintaining a spacing or while sandwiching an auxiliary member to give integration.

26. A method of manufacturing an integrated support according to claim 22 or claim 23, wherein said base member is formed as a film or thin sheet, said substances for detection are positioned on said base member in approximate lines which do not intersect or contact the other substances, and said integration step involves rolling, laminating or arranging in a way that either enables or prevents expansion to give integration, and wherein a cutting step is provided following said integration step, in which the integrated base member on which said substances for detection are fixed, is sliced thinly to form a plurality of integrated supports in which the cross-sectional surface of the cut functions as a layer surface.

27. A method of manufacturing an integrated support according to claim 22 or claim 23, wherein in said positioning step each suspension or semi-liquid incorporating a substance for detection with a predetermined chemical structure, is positioned by being painted, dispensed, imprinted, drawn up, impregnated or stored onto said base member, or, into a plurality of cavity sections of channels, apertures or capillaries, or into holding sections having a porous material, a foam material, a fibrous material, a material with an irregular surface or an impregnating material, provided with said base member.

28. A method of manufacturing an integrated support according to claim 22 or claim 23, wherein in said integrating step said base member and/or auxiliary member are bound in such a way that is either releasable or non-releasable.

29. A method of manufacturing an integrated support according to claim 22 or claim 23, wherein in said positioning step, said substances for detection are fixed and supported onto said base member by drying the positioned suspensions or semi-liquids which contain the substances for detection.

30. A method of manufacturing a DNA integrated support comprising:

a positioning step in which at each of a plurality of predetermined locations positioned along the length of at least one thread shaped, cord shaped, tape shaped or rod shaped long and slender base member, a suspension or semiliquid incorporating a genetic substance such as an oligonucleotide with a predetermined base sequence which corresponds to that particular location is positioned and fixed onto said base member by being painted, dispensed, imprinted, drawn up,

impregnated or stored, either into cavity sections provided on said base member comprising channels, apertures or capillaries, or into holding sections provided on said base member having a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material; and

an integration step wherein said base member, on which is positioned the suspensions or semi-liquids, is rolled, laminated or arranged in such a way that either enables or prevents expansion, while bringing side portions of said base member into contact with each other or while maintaining a spacing or while sandwiching an auxiliary member to give integration.

31. A method of manufacturing a DNA integrated support comprising:

a positioning step in which at each of a plurality of predetermined locations side by side on at least one film type or thin sheet type base member, a suspension or semi-liquid incorporating a genetic substance such as an oligonucleotide with a predetermined base sequence which corresponds to that particular location is positioned and fixed onto said base member in substantially parallel lines, into cavity sections comprising channels, apertures or capillaries and which are provided in substantially parallel lines on said base member, or into thread shaped, cord shaped, tape shaped or rod shaped long and slender holding sections which are provided in substantially parallel lines on said base member and which have a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material by being painted, dispensed, imprinted, drawn up, impregnated or stored;

an integration step wherein said base member, on which is positioned the suspensions or semi-liquids, is rolled, laminated or arranged in such a way that either enables or prevents expansion and so as not to bend said substantially parallel lines, while bringing face pairs of said base member into contact with each other or while maintaining a spacing or while sandwiching an auxiliary member, to give integration; and

a cutting step wherein said integrated base member is cut thinly across said substantially parallel lines to obtain a plurality of DNA integrated supports in which the cross-sectional surface of the cut functions as a layer surface.

32. A method of manufacturing an integrated minute vessel comprising:

a processing step for providing on at least one base member, either a plurality of cavity sections such as channels with bottoms or ends, or holding sections having a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material; and

an integration step wherein said base member is rolled, laminated or arranged in such a way that either enables or prevents expansion, while bringing said base member into contact with itself or while maintaining a spacing or while sandwiching an auxiliary member, to give integration.

33. A method of manufacturing an integrated minute vessel according to claim 32, wherein said base member is formed as a film or thin sheet, and said cavity sections or said holding sections are each provided in approximate lines which do not intersect or contact the other sections, and wherein a cutting step for cutting the integrated base member to form a plurality of integrated minute vessels is provided after said integration step.

34. A method of manufacturing a permeable membrane comprising:

a processing step for providing on at least one base member, either a plurality of cavity sections such as bottomless or open-ended channels, or holding sections having a porous material, a foam material, a fibrous material, a material with an irregular surface, or an impregnating material; and

an integration step wherein said base member is rolled, laminated or arranged in such a way that either enables or prevents expansion, while bringing said base member into contact with itself or while maintaining a spacing or while sandwiching an auxiliary member to give integration.

35. A method of manufacturing a permeable membrane according to claim 34, wherein said base member is formed as film or thin sheet, and said cavity sections or said holding sections are each formed in approximate lines, and wherein a cutting step for cutting the integrated base member to form a plurality of permeable membranes is provided after said integration step.

36. A method of using an integrated medium, wherein by passing a heating fluid or a cooling fluid through an integrated support, an integrated minute vessel, or a permeable membrane, the integrated support, integrated minute vessel, or permeable membrane is heated or cooled respectively.

37. A method of using an integrated medium, comprising:

a processing step for conducting processing using an integrated support, an integrated minute vessel, or a permeable membrane, and

a measurement step for conducting measurements of an optical state with the processed integrated support, integrated minute vessel, or permeable membrane, either in an expanded state or in an integrated state.

38. A method of using an integrated medium according to claim 37, wherein the measurement in said measurement step with said integrated support, integrated minute vessel, or permeable membrane in an integrated state involves identification of an absolute location on the layer surface thereof.

39. A method of using an integrated minute vessel comprising:

a hardening step wherein with a base member of an integrated minute vessel in an expanded state, a predetermined suspension is positioned in a predetermined cavity section or a predetermined holding section by dispensing, imprinting, impregnating painting or storing, and subsequently hardened;

an integration step for integrating said base member on which said predetermined suspensions have been hardened, so that expansion is either enabled or prevented;

a fluidization step for fluidizing said hardened suspensions inside said respective cavity sections or holding sections; and

a processing step for conducting reaction processing within said cavity sections or holding sections.

40. A method of using an integrated minute vessel according to claim 39, wherein a suction step in which a pin shaped liquid passage is inserted into each of said cavity sections or holding sections for drawing up reaction products, is provided after said processing step.

41. A method of using an integrated minute vessel according to claim 39 or claim 40, wherein said suspensions incorporate magnetic particles, and said suction step is conducted with a

magnetic field either applied to, or absent from each of said cavity sections or holding sections.

42. An integrated medium storing fluid passage, comprising at least one fluid passage, and pressure control means for controlling the pressure inside said fluid passage, wherein an integrated support, an integrated minute vessel or a permeable membrane is stored inside said fluid passage, or inside a storage section communicated with said fluid passage, and said fluid is able to pass through the integrated support, integrated minute vessel or permeable membrane, or said fluid is able to contact the integrated support, integrated minute vessel or permeable membrane.

43. An integrated medium storing fluid passage according to claim 42, wherein said fluid passage, or said fluid passage and storage section are detachable with respect to said pressure control means, or said storage section or said integrated support, integrated minute vessel , or permeable membrane are detachable with respect to said fluid passage or storage section, and wherein said fluid passage and said pressure control means comprise displacement means for conducting relative displacement between vessels of said fluid passage, as well as a dispensing device.

44. An integrated medium storing fluid passage according to claim 42, wherein said pressure control means comprises a nozzle for controlling pressure by drawing gas from or discharging gas into said fluid passage, and said fluid passage comprises a reservoir section which stores fluid and which is joined in a detachable manner to said nozzle, and a narrow diameter section which is communicated with the reservoir section, and which is of smaller diameter than said reservoir section and is able to be inserted inside a vessel.

45. An integrated medium storing fluid passage according to claims 42, 43 or claim 44, wherein light emitting means for irradiating light on to said integrated support, integrated minute vessel, or permeable membrane stored in said fluid passage or said storage section, and/or light reception means for capturing light emitted from said integrated support, integrated minute vessel, or permeable membrane are provided.

46. An integrated medium storing fluid passage according to claim 45, further comprising a rotational drive section for rotational driving said fluid passage and said storage section, or said integrated support, integrated minute vessel, or permeable membrane contained therein.

47. An integrated medium storing fluid passage according to claims 42, 43 or 44, comprising a cooling medium or a heating medium provided outside of said fluid passage so as to be movable towards or away from an external wall of a neighboring fluid passage which contains said integrated medium, in order to heat or cool said integrated support, integrated minute vessel, or permeable membrane stored inside said fluid passage or inside said storage section communicated with said fluid passage.

48. An integrated medium storing fluid passage according to claims 42, 43, or 44, further comprising magnetic means which enables the application of or removal of a magnetic field acting in the direction of a normal line of said substrate, onto the inside of each of the cavity sections of said integrated support, integrated minute vessel, or permeable membrane stored inside said fluid passage or said storage section.

49. A magnetic separation device comprising: a mounting section for mounting an integrated support, integrated minute vessel, or permeable membrane, and a magnetic section provided on a lower surface of said mounting section, and which enables the application of or removal of a magnetic field from beneath said substrate, with respect to the inside of each of said cavity sections of said integrated support, integrated minute vessel, or permeable membrane.